"CEILING ACTUATOR FOR UP-AND-OVER AND SECTIONAL DOORS"

C L A I M S

1. Ceiling actuator for up-and-over and sectional doors, comprising of a guide profile (11), a sliding block or carriage (12) moving longitudinally along the guide profile and connected to the door to be controlled, and an electrical gear motor (19) housed in a body or casing positioned at one end of the guide profile and used to control a sprocket (12) to cause the alternative movements of the sliding block or carriage corresponding to the opening and closing movements of the door by means of a transmission chain (13), characterised by the fact that the transmission chain (13) has an active section (13') with one end attached to the sliding block or carriage (12) and turns on said sprocket (18) driven by a gear motor (19), and a passive section (13") returning in profile (11) in a direction parallel to the movement of said sliding block or carriage.

2. Ceiling actuator according to claim 1, wherein said guide profile 11 has a longitudinal first guide channel (16) for the sliding block or carriage (12) and the chain attached to it, and at least a second channel (17) to receive and guide the free end section (13") of said chain.

3. Ceiling actuator according to claims 1 and 2, wherein said guide profile (11) has two additional channels (17) placed symmetrically and parallel to the guide channel of the sliding block or carriage.

4. Ceiling actuator according to claim 1, characterised by the fact that it includes, in association with said sprocket (18), external and internal (21,22) guide fixtures, forming an obligatory passage (23) for the transmission chain (13) and configured to direct the active section (13') of the chain connected to

the sliding block or carriage, at a tangent to the control sprocket and to move the passive free end (13") of the chain close to and parallel with said active section.

5. Ceiling actuator according to claim 4, wherein said guide fixtures include an external guide element (21) and an internal guide element (22) positioned respectively outside and inside the route of the two active and passive (13', 13") sections of the chain, separated and forming between them the guide passage (23) in which the adjacent parts of the chain are housed and pass around the sprocket (18), the width of the guide passage (23) being compatible with the dimensions of the links of the chain and presenting, in succession , a rectilinear tract (24) at a tangent to the sprocket (18) and along which moves the active section (13') of the chain connected to the sliding block, an intermediate circular part (25) concentric to the sprocket (18) and a curvilinear tract (26) which leads to the rectilinear tract (24) until it is parallel to it and in which the passive section (13") of the chain moves.

6. Ceiling actuator according to claim 5, wherein said external and internal guide elements (21,22) are placed in a supporting body (20) housing the sprocket and control gear motor, and wherein along at least one part of the internal sides of the rectilinear (24) and curvilinear (26) tracts of said guide passage (23), protrusions (27, 28) are provided which form between them, a tapered passage (29) on a level with the rollers of the chain and whose width is compatible with the diameter of said rollers.

7. Ceiling actuator according to claim 6, wherein said protrusions (27, 28) are made in the supporting body (20) of the sprocket (18).

8. Ceiling actuator for up-and-over and sectional doors, comprising a guide profile (11), a sliding block or carriage (12) moving longitudinally along the guide profile and connected to the door to be controlled, and an electrical gear motor (19) housed in a body or casing positioned at one end of the guide profile (11) and used to control a sprocket (12) to cause the alternative movements of the sliding block or carriage corresponding to the opening and closing movements of the door by means of a transmission chain (13), characterised by the fact that the transmission chain (13) has an active section (13') with one end attached to the sliding block or carriage (12) and turns on said sprocket (18) driven by a gear motor (19), and a passive section (13"), returning in profile (11) in a direction parallel to the movement of said sliding block or carriage, and in that, in association with said sprocket (18), external and internal guide fixtures (21, 22) are provided forming an obligatory passage (23) for the transmission chain (13), shaped to direct the active section (13') of the chain connected to the sliding block at a tangent to the control sprocket and to get the passive section of the free end (13") of the chain to approach and be parallel to said active section.